

Hormone-Regulating Herbs and Phytoestrogens

Adapted from Women's Herbs, Women's Health

Christopher Hobbs L.Ac. and Kathi Keville

Dr. Lois Johnson, MD from Northern California has a busy practice and works a lot with women who have hormonal imbalances. She gives only about a quarter of her post menopausal patients HRT. She successfully treats the rest who complain of menopausal symptoms with natural therapies, primarily herbs. She only prescribes hormones if patients' symptoms are so severe that herbs do not control them; if there is a high risk of osteoporosis or heart disease, since both are potentially life threatening; or it is the woman's choice. Johnson prefers hormonal creams because they bypass the liver.

Here is a review of the most popular hormone-regulating herbs, including the two most-studied, vitex and black cohosh.

Black Cohosh

Preparations of black cohosh, such as Cimicifuga-Pentakran, are commonly prescribed by European doctors and sold in drug stores there to reduce hot flashes and help ameliorate other unpleasant symptoms that can happen during menopause such as depression. Black cohosh was recommended by the Eclectic doctors in the early part of this century for many women's hormonally-related problems, including the following:

- *Sore breasts
- *Prolapse or weakness of the uterus
- *Painful menstruation (dysmenorrhea)
- *Sluggish, suppressed, or stopped menses (amenorrhea)
- *Vaginal yeast infections
- *Ovarian pain
- *Nervous system excitability associated with menses or hormonal swings

(Taken from Felter & Lloyd, 1898)

The number of women in Germany who have used a black cohosh product called Remifemin since 1956 is now estimated to be over an impressive 1.5 million. There have been so few reported side effects, the

German BGA, (the German equivalent of the FDA), says black cohosh has no contraindications, and only a few side effects like occasional gastric discomfort (Blumenthal, 1998).

It appears that black cohosh affects hormone balance in complex ways, and several hormonally-active compounds have been identified. In laboratory tests, one set of compounds could inhibit LH production but had no estrogenic activity; another did show estrogenic activity and also suppressed LH; still another fraction had estrogenic activity but did not affect LH (Düker et al. 1991).

Black cohosh inhibits LH, but unlike estrogen, does not affect the levels of prolactin and FSH. In a study from the University of Gottingen's Department of Clinical and Experimental Endocrinology in Germany, over 100 menopausal women with high levels of LH had the hormone and their hot flashes diminish after taking Remifemin (equivalent to 8 mg of black cohosh extract) for two months. In addition, black cohosh had a similar effect on the vaginal wall as estrogen, which might make it useful for counteracting vaginal wall atrophy years after menopause (Düker et al. 1991). Four additional controlled clinical studies were performed in Germany from 1985 to 1995 that looked at the clinical effects of black cohosh on hormonal regulation. The herb showed a protective effect against the stimulation of cellular proliferation of breast cells by estrogen, indicating that it is safe to take for women who are at risk for breast cancer, or who already have the disease (Schulz et al, 1998).

Studies also found black cohosh as helpful in reducing stress-related menopausal problems as the sedative Valium. In a German study, even when Remifemin was given to women under the age of forty who had hysterectomies, it still reduced their menopausal symptoms as long as they still had at least one ovary,

proving equally as effective as estrogen (Lehmann-Willenbrock & Riedel, 1988).

Black cohosh is widely available in tablet and tincture form. Take about 2-4 droppers of the liquid tincture, several times daily. Three or four tablets can be used according to the instructions on the product you choose. We have found this herb to be highly effective for many women and is a good bet as a first choice instead of estrogen-replacement. It is often blended with vitex in commercial products.

Vitex

Vitex is a sensible and proven alternative to hormone replacement therapy. Vitex not only increases progesterone but normalizes the estrogen/progesterone ratio, apparently through its action on the pituitary. In fact, it so effective in hormonal balancing that a German doctor, Gerhard Madaus, who studied vitex extensively and developed a patent medicine from it, advises not taking vitex with progesterone-containing medicines, such as birth control pills, because it may interfere with their activity (Madaus & Co., 1994). The herb is thought to regulate progesterone through its effect on the hypothalamus and pituitary. The pituitary sends chemical signals to other glands, such as the ovaries and telling them how much of a particular hormone to make. For example, if there is too much estrogen in the blood, the pituitary detects these increased levels from sensors in other parts of the body and tell the ovaries to make less, so that the amount of estrogen in the blood then drops to normal levels.

Summary of Conditions Treated Successfully with Vitex

- *Premenopausal symptoms (Amman, 1974)
- *Menstrual bleeding disorders such as amenorrhea and hypermenorrhea (Loch, 1990)
- *Symptoms of PMS (depression, breast tenderness, headaches) (Feldmann, 1996)
- *Fibrocystic disease (Kubista, 1986)
- *Corpus luteum insufficiency (Feldmann, 1996)
- *Insufficient milk flow in nursing mothers (Hahn, 1984)
- *Menstrual cycle irregularities due to previous progesterone therapy (Brantner, 1979)

Vitex was shown to be as effective as synthetic hormones in treating various cyclic disorders, including amenorrhea, and exhibited fewer side effects. A drawback of the drug was that it caused bleeding to start without causing the hormonal changes needed for a complete cure. Vitex was used for six months by the nearly 2500 women involved in the study (Loch and Kaiser, 1990).

In a review of a study involving more than 1,000 women suffering from various disorders, such as PMS, uterine bleeding, polymenorrhea, and menopausal problems, doctors found favorable results using vitex vs synthetic hormones. The doctors were quoted as saying, "We think it is appropriate to draw attention to this ancient and entirely harmless remedy" (Attelmann and Bends, 1972).

A study was recently conducted in Germany that compared the effectiveness of vitex with that of vitamin B6 (pyridoxine) in treating PMS symptoms. After three menstrual cycles, 77.1% of the women taking vitex reported improvements, compared with 60.6% of the women taking pyridoxine. While both treatments were effective, the vitex group showed "a considerably more marked alleviation of typical (PMS) complaints, such as breast tenderness, edema, inner tension, headache, constipation, and depression" (Lauritzen, et al, 1997).

Phytoestrogens

Phytoestrogens are compounds from plants that have a mild estrogenic activity in the body (Knight & Eden, 1996). These useful natural hormone regulators are already in our diet—they occur in beans, seeds, fats, and other foods. Most women from North America only get about 5 grams a day of phytoestrogens, while Asian women get an estimated 30 to 100 mg a day (Wilcox et al, 1995; Coward et al, 1993). Japanese women get up to 200 mg a day (Cassidy et al, 1994). Studies that look at large population of women to see how their diet affects health and longevity are saying that this appears to be a major factor in the easy menopause that many Asian women report. For instance, the incidence of hot flashes is the most common symptom that can happen during menopause for many western

women, occurring in from 70-80% of European women (Rekers, 1991), but only an estimated 18% of Chinese women and 14% of women in Singapore (Tang, 1994; Boulet et al, 1994). In the U.S. up to 58% of women going through menopause report them, and up to half of women who come to clinics have them longer than 5 years (Greendale & Judd, 1995). Scientists say the substantial differences in dietary habits might be a major factor. Other diseases like heart disease and osteoporosis might be prevented or benefitted by increasing the intake of phytoestrogens in the diet, in a similar way that pharmaceutical estrogen supplementation does, but with one major difference. Phytoestrogens don't increase the risk of developing endometrial and breast cancer; they reduce the risk (Knight & Eden, 1996)!

Four main plant constituent groups have estrogenic activity, though only lignans and isoflavones have shown definite human estrogenic activity:

- lignans found in oil seeds, whole grains and bran, vegetables, legumes, and fruits
- isoflavones like genistein and daidzein that occur in most beans, for instance soy products and garbanzos, but also in herbs like red clover and the Chinese herbs psoralea and kudzu
- coumestans like coumestrol found in alfalfa and some clovers (*Trifolium* spp.)
- resorcylic acid lactones like zearalenone found in some fungi (*Fusarium* spp.)

Some of the the phytoestrogens are estimated to be only about two percent as strong as estrogen, yet at the high levels they can occur in the body, they can produce significant estrogenic effects (Kaldas & Hughes, 1989). Phytoestrogens, unlike estradiol and other human estrogens, are not bound by carrier proteins in the body and continue to circulate in the "free" form. This may make them much more available to our estrogen-sensitive tissue.

Isoflavones and lignans are probably the most important classes of phytoestrogens in the human diet and in herbal products. The question is, how to get more of them into our diet, or supplement with them to achieve the same levels of Asian women?

Lignans have less definitive research on them than isoflavones. We do know that these compounds are broken down in the gut and transformed by intestinal microflora to produce two major compounds, enterolactone and enterodiol. Lignan phytoestrogens have shown a supportive effect on the vaginal wall tissue of postmenopausal women, though this has not yet been confirmed by other studies (Wilcox et al, 1990). Lignans have been associated with a protective effect against hormone-related diseases, such as cancer of the breast and prostate. Whole grains contain mammalian lignan precursors, as well as the antioxidants vitamin E and selenium. These substances may explain the reduced risk of cancer and coronary heart disease associated with intake of high-fiber diets containing whole grains. Because they are more associated with the fiber in the outer layers of the grain, whole grain foods are preferred over refined grains (Thompson, 1994). Flax seed meal is the highest natural source of these compounds by far. Eating a tablespoon or two of ground flax seed on your cereal in the morning might help reduce hot flashes and support a symptom-free and easy menopause. Most research today on phytoestrogens focuses on isoflavones in soy. The soy growers and manufacturers seem to be more excited about their product than the flax growers.

The major isoflavones are genistein, daidzein, formononetin, and biochanin. Genistein is the most widely-studied isoflavone and may be the most active, with daidzein second. The last two are not as active but fortunately are broken down in the human gut, being transformed to genistein and daidzein (Kelly et al, 1998).

When we say that isoflavones have mild estrogenic effects, this doesn't tell the whole story. These compounds can also affect the way estrogen works in the body. They can influence how much estradiol is manufactured in our bodies, how it is broken down, and to what extent other estrogen-like compounds like estrone promote the production of estrogen carrier proteins in the liver (Kelly et al, 1998). These carriers determine how much estrogen actually reaches our tissues and has an effect before it is broken down.

Though this seems complicated, just remember that phytoestrogens, unlike our own estrogen, can act as estrogen *buffers*. If there is too much estrogen bombarding estrogen-sensitive tissue, for instance in the breast, then phytoestrogens like genistein can take up estrogen sites and partially block the overstimulation. They may also help reduce excessively high levels of our own estrogen, which has been linked with the development of some cancers, mood swings, and PMS. If we are not producing *enough* estrogen for our body's needs, the phytoestrogens can take up the slack, gently stimulating the tissues and sites that need it.

We know that isoflavones have other biological effects besides their estrogenic action. They are strong antioxidants and are known to inhibit LDL cholesterol oxidation, protecting our vessels. They also show a wide range of other protective effects on the cardiovascular system, like reduction of abnormal clotting, opening blood vessels to allow more blood to flow, and other effects. Plus they promote calcium ion storage in cells and have been shown to help maintain bone density in animal studies. Both of these effects may be valuable for women after menopause or for women who do not have their ovaries, offering possible protection against heart disease, bone loss, and osteoporosis. Isoflavones have shown strong effects in slowing the growth of various human cancer cells *in vitro* (Kelly et al, 1998).

Soy beans contain good amounts of isoflavones and other phytoestrogens, the highest amounts being found in tofu and tempeh, and lesser amounts in soy drinks. Some soy-based baby's formulas did not contain them (Dwyer et al, 1994). For maximum phytoestrogen protection, we recommend that you add soy or other beans to your daily diet. Since it is difficult to eat soy or beans several times daily, as is often the case in Asia, you can purchase a number of products that contain soy and red clover products standardized to genistein and isoflavones. Here's a great way to get your soy: have a Chocolate-Soy Smoothie—it's actually good for you. The drink should contain only about 1 gram of saturated fat (4% of recommended allowance). Here's to your health.

Chocolate-Soy Smoothie

1/3 cup of soy protein powder (available in most natural food stores)

2-3 tablespoons of unsweetened cocoa powder

1 teaspoon of honey, or stevia leaf powder to taste for sweetness

1 banana

2 cups of soy milk, or 1 cup soy and 1 cup rice milk

½ teaspoon of vanilla extract if desired for flavor

Add the ingredients to the blender and blend on high speed until creamy-smooth. You can add more or less liquid to adjust the thickness of the shake. A one-cup serving should give you at least 40 mg of isoflavones, mostly genistein. The chocolate contains polyphenols that have strong antioxidant effects and only a bit of the stimulant alkaloid theobromine (the caffeine content is very small).

The Evidence: Science and Phytoestrogens
One big question about phytoestrogens and isoflavones is being answered through clinical trials around the world. This question is can phytoestrogens provide the same health and protective benefits as estrogen-replacement therapy, without the risks? Although we don't have the definitive answer to this question yet, the clinical studies that have been done are starting to add up, and these preliminary results look promising. The epidemiological, or population studies, with women in countries like Japan who do get a lot of phytoestrogens in their diet, make a strong case for adding more phytoestrogens to your diet now. Substituting soy products for meat in your daily diet will not lead to protein deficiency when accompanied with a balanced vegetarian diet, according to current research (Gausseres, 1996). Asian women have a lower incidence of osteoporosis (Cooper et al, 1992) and hip fractures (WHO Study Group, 1994) than women in the west. Coronary heart disease, as well as cancers of the breast, colon, prostate, uterus, and ovaries occur less often among Asian women and men than in the western industrialized countries (Rose et al, 1986). Japanese women and men have the lowest incidence of estrogen-related cancer

(Parkin, 1989), and women in Japan often have a better outcome after developing breast cancer than western women, independent of the severity (Cohen et al. 1993). Asians who move to the west and maintain a traditional diet do not develop an increased risk (Kolonel, 1988), but the risk is increased with the adoption of a more refined western diet (Lee et al, 1991). Soy intake is also associated with a lower incidence of rectal cancer (Messina et al, 1994). As far as heart disease goes, a number of studies support soy for a healthy heart (Carroll, 1991). Three servings of soy products a day can significantly reduce your total cholesterol, LDL cholesterol, and triglyceride levels (Anderson et al, 1995).

Here is a summary of some of the recent clinical studies that have been done.

- **Reduction of hot flashes in perimenopausal women**—increasing levels of isoflavones in the urine of the women strongly correlated with a reduction in symptoms (Kelly et al, 1998); hot flashes were reduced by 40% in a group of 58 menopausal women who received soy flour instead of wheat flour (Murkies et al, 1996); another double-blind cross-over study with 20 women showed that growth hormone and prolactin were significantly increased after 2 months, with LH decreased; hot flashes occurred less often than in a placebo group (Harding et al, 1996)
- **Improved blood cholesterol levels**—Increased levels of HDL cholesterol of 18% with about 40 mg of isoflavone supplementation (from red clover extract), but this benefit was lost with 160 mg a day dose (Kelly et al, 1998); an analysis (meta-analysis) of available studies on how soy affects blood cholesterol and triglyceride levels shows a clear benefit for lowering total cholesterol, LDL cholesterol, and triglycerides, while raising HDL levels (Anderson et al, 1995); similar benefits were seen in a second group of women taking soy powder with isoflavones, and the HDL/LDL ratio was improved (Potter et al, 1996)
- **Improved bone density**—66 post-menopausal women took either 40 grams of soy protein with between 56 and 90 mg of total isoflavones a day or nonfat dry milk powder; after 6 months, the soy group had

significantly better bone density than those taking the milk powder (Erdman et al, 1996)

Side effects and contraindications

Because these compounds are a regular part of the diet in many women throughout the world, safety is not a big issue. Changes in the length of the menstrual cycle have been observed in women who were on a diet with substantial amounts of soy (Baird et al, 1995). Supplementing with isoflavone-rich products without all the other natural cofactors that are found in the parent foods that contain them might be different with long-term use; it is too early to say. Some researchers recommend limiting isoflavone input when you are already taking reproductive hormone supplementation like estrogen or testosterone. Avoid high doses of isoflavone-containing products during pregnancy and lactation. Isoflavones have been shown to go through mother's milk, but this should not be a problem if the isoflavones are ingested as part of the normal diet, or if supplementation with tablets is at or below a level normally found in the normal human diet of Asian cultures (Kelly et al, 1998).

Though the soy promoters have done more of their homework on the beneficial effects of their product, other foods and herbs contain even more of the isoflavones. And what the soy manufacturers don't tell us is that soy has more fat than other phytosteroid-rich beans. While manufacturers are providing tiny tablets to give us our daily phytoestrogens, why not get them out of bean soup or burritos? Jim Duke, Ph.D., an internationally-respected researcher of the medicinal properties of foods and herbs, author of *Green Pharmacy*, and former botanist for the USDA, put it best: "If you enjoy other beans more than soybeans and eat twice as many you might get almost twice as much genistein. I'd rather enjoy my medicine." Dr. Duke emphasizes that black beans and other American beans might be as good or better than soy for getting our phytoestrogens, with less fat. Remember too that soy is a big business mega-crop in the U.S. and other parts of the world. We feel cautious about the latest agricultural developments in genetic engineering. Monsanto has patented a number of genetic types and has even

gotten farmers from India and other parts of the world to sign contracts that prevent them from saving their seeds for the next crop—a practice that has been carried on in traditional agriculture for probably thousands of years. Some soy growers are using "Roundup-ready" soybeans in their fields. These aberrations are genetically-

programmed to resist the ravages of the potent herbicide Roundup. The weeds die, and the soy just keeps on growing.

Here is a table listing some of the major sources of phytoestrogens in foods and medicine compiled by Dr. Duke.

Table 1 Content of Isoflavones in beans

Food	Genistein (ppms)	Daidzein (ppms)	Grams to Provide 70 mg Isoflavonoids
Psoralea corylifolia	1528.0	539.7	30
Kudzu Root	316.9	949.8	55
Yellow split pea	45.8	0.4	1,550
Black turtle beans	45.1	0.4	1,540
Baby lima beans	40.1	0.4	1,730
Large lima beans	34.4	0.3	2,015
Anasazi beans	29.8	6.5	1,930
Red kidney beans	29.3	2.7	2,190
Red lentils	25.0	5.2	2,320
SOYBEANS	24.1	37.6	1,135
Black eyed peas	23.3	0.3	2,965
Pinto beans	22.3	23.2	1,540
Mung beans	21.8	0.3	3,165
Azuki beans	21.2	4.6	2,715
Faba beans	19.9	5.0	2,810
Great northern beans	17.7	7.2	2,810

SOURCE: Kaufman & Duke et al, 1997.

Herbs with reported phytoestrogenic activity include the following (other main uses and actions of the herbs are also listed to help choose the right herb for your needs):

- *Red clover blood purifier for easing skin ailments like acne, reported to help prevent cancer
- *Alfalfa highly nutritious herbal supplement with high mineral and vitamin content; may help lower cholesterol
- *Hops calming herb traditionally used to flavor beer and ale; promotes relaxation and sound sleep

- *Hibiscus flowers refreshing bright red tea used for cooling summer drinks
- *Kudzu in Chinese medicine, this traditional herb is used to treat aching muscles due to colds and flu; reported to lower hypertension; a common and problematic weed throughout the southeastern United States

*A note of thanks to David Knight and John Eden for their worthwhile article "A Review of the Clinical Effects of Phytoestrogens," from which some of our information was drawn.

Human Hormones in Plants

Women of North Africa were familiar with this herb long ago. They finely ground the pits of the date palm pits and added them to their husbands' meals before they went out on camel caravans to assure that they would be faithful. Does it work?

Perhaps. Date pits are high in the human estrogen called estrone that might lower testosterone and the men's sex drive along with it!

True human estrogens are rare in plants, except for a few exceptions—pomegranate seeds, date seeds, and willow buds, which all contain estrone.

Estrogenic compounds in pomegranate seeds may be responsible for their ancient reputation as a women's aphrodisiac and a fertility symbol.

Although products are not available yet that contain these herbal extracts, the raw materials are available. Date seeds are a by-product of the date industry, pomegranates are easy to grow at home, and willows grow all over the world.

The pomegranate seeds can be harvested from the fruit after the juice pulp is juiced or eaten. Dry the seeds, powder them in a coffee grinder, and pack them into double-ought ("00") caps. Take 3 or 4 twice daily as a mild estrogen supplement. Date seeds are difficult to grind because they are fibrous, so freeze them first and then grid in the blender until powdered. Be careful you don't wear out the blender—the seeds are very tough. Willow buds should be harvested in the very early spring before the leaves sprout. They can be tinctured in pure ethanol (190 proof), available from several mail-order alcohol companies. See the Resource Section for more details. The dose is ½ to 1 tsp in a little water, several times daily.

Liver Herbs: Important for Hormone Balance

Any herbalist will tell you that liver herbs often improve even hard-to-treat women's health problems like PMS. They neutralize liver toxins, reduce and repair liver damage, act as antioxidants, increase beneficial liver enzymes, and generally make the liver operate more efficiently. The liver has several important functions in helping to maintain a healthy hormone balance in the body. The liver must process hormones and create bile, the raw material

for many steroid hormones. According to Traditional Chinese Medicine, the liver regulates the blood (which carries the hormones), creates hormone carrier proteins, and is an important organ for harmonizing the emotions.

During her years of fertility, a woman's hormone levels rise and fall according to her monthly cycle. Where do excess hormones go when the body is finished with them so they don't build up to unhealthy levels? It is the liver that breaks them down and detoxifies them. Estrone is converted in the liver into estriol and also excreted in the urine. Estrone and estradiol are forms of estrogen that can overstimulate estrogen receptors and strongly stimulate breast and uterine tissue, promoting excessive cell growth in these areas. Large amounts can even be carcinogenic. On the other hand, the more beneficial estrogen, called estriol, is a lighter tissue stimulant and may act as an anticarcinogen. Estriol's primary action is the vaginal walls, while estradiol is more concerned with the uterine lining. When estriol is present, it hooks on to a receptor and blocks estrone and estradiol from settling in and affecting the breast and uterus. Instead, they keep circulating in the blood and are detoxified when the blood moves through the liver. This conversion is enhanced during breastfeeding and also during pregnancy because it gets help from the fetus' liver (Lemon, 1980; Tzingounis et al, 1978). The liver enzymes P450 and glutathione destroy up to 80 percent of excess estrogen.

Here is a sampling of important liver herbs that can help you achieve better hormone balance and reduce symptoms.

- Liver protectors and rebuilders include milk thistle, shisandra, ginger, turmeric, and artichoke leaf extracts; cook with ginger and turmeric
- Liver cleansers, including dandelion root, lemon juice, yellow dock root, burdock root, and boldo, can help the liver do its job better
- Antioxidants for the liver like milk thistle and grape seed extract prevent damage by eliminating damaging free-radicals

LIVER TEA

3 Teaspoons Burdock
1 Teaspoon Dandelion Root
1/2 Teaspoon each

Schisandra Berries
Licorice Root
Ginger Rhizome

1 Quart Water

Combine ingredients and simmer water a couple minutes. Turn down heat and let steep about 15 minutes. Strain and drink at least two cups a day.

Liver-Supportive Supplements

Nutritional supplements play a role in liver health. Even an unhealthy liver still converts about half of the estrogen it needs to process to a less toxic form, providing liver-supporting nutrients like the B vitamins, sufficient protein, vitamin E and C can increase its health and efficiency. Xx fix this sentence Choline (1000 mg), inositol (500 mg), and the amino acid methionine also help the liver convert and emulsify not only fat itself, but fat soluble hormones like estrogen. You can get this amount in 4-5 tablespoons of lecithin.

Healthy Habits for Liver Health

One of the best things to do for your liver is to always keep alcohol consumption to a minimum. If you do over-indulge once in awhile, ginseng can help lower the alcohol level in the blood in forty minutes, according to research on alcohol-lowering enzymes done by the Korean Ginseng & Tobacco Research Institute. The GLA in evening primrose oil and borage seed oil may prevent poisoning and depression from alcohol, hangovers, and alcohol withdrawal and stop alcohol from damaging brain cells, according to researcher Dr. Brian Leonard, Ph.d. at the University College in Galway, Ireland (Leonard, 1984).

HEALTHY DIET, HEALTHY HORMONES

Diet and Dietary Supplements for Hormone Health

Ways to keep estrogen excess at bay are to stay trim and avoid fat, alcohol, excessive amounts of stress, chronic pain, sugar, marijuana--all of these might cause estrogen to surge and progesterone to drop. Since estrogen is stored in fat cells, a fatty diet and excess body fat increase your ability to manufacture and store it. Dairy products and meat from animals that were fed estrogen-like compounds to fatten them add an extra dose. Fat also turns an otherwise inactive

hormone called androstenedione into estrogen.

Beneficial Gut Bacteria

Acidophilus works in two ways to keep estrogen at a healthy level. It promotes beneficial B-vitamins and inhibits an intestinal bacterial enzyme (beta-glucuronidase) that breaks down estrogen. Since high levels of estrogen deplete the "anti-stress" B vitamins, they also increase the need for them, especially vitamin B6. Iodine and magnesium work with B6 to keep estrogen levels low.

Hormone Replacement Therapy and Natural Alternatives

Christopher Hobbs L.Ac., A.H.G.

Introduction

Sexual hormones have a pervasive effect on our mental, emotional and physical function.

They regulate sexual maturity and function as well as physical development, and they also act as neurotransmitters and can affect mood, mental and emotional processes.

Such common symptoms as depression, insomnia, and anxiety can be associated with sexual hormone levels.

- Stress, diet, pesticides and herbicides, electromagnetic radiation, and other factors can affect hormone levels substantially
- Scary article in latest *Earth Island Journal* (Fall 1996): In late July, SF newspapers reported that the Bay Area had the highest incidence of female breast cancer: On June 9, (SF Examiner) reported that over the last 10 years, "the city has dumped at least 10,000 pounds and 775 gallons of powerful pesticides on parks and golf courses." Including chlordane and toxaphene, which are known to act as exogenous estrogens, and interfere with the function of human estrogen. In the June issue of *Science*, researchers report that some pesticides when mixed together

are up to 1,000 x more potent!"

Some pesticide product labels say "Wait until it's dry, then your children can play on the lawn."

- Accumulative effect over time is important. For instance, it is known that soy products contain certain isoflavones that can act as a regulator of estrogen.
- The health of the liver is important for detoxifying estrogen-like substances.

1. USE OF ESTROGEN in MEDICINE

- Estrogen can effectively reduce undesirable symptoms that can come up during menopause and those associated with the menstrual cycle (PMS), including psychological symptoms.
- Estrogen is considered effective in the prevention of such diseases as osteoporosis, atherosclerotic cardiovascular disease, urogenital atrophy.
- In some cases, helps with depression and anxiety
- Often effective for reversing vaginal dryness and endothelial atrophy
- Women are even asking for it to reverse the ageing process, and to help keep a youthful appearance.

Disease prevention and in the treatment of

*Osteoporosis

*Atherosclerotic cardiovascular disease

*Urogenital atrophy

*Vaginal atrophy, dryness

THE LIVER'S ROLE IN HORMONE BALANCE

- *The liver breaks down ESTRADIOL (most potent form of estrogen-- 12x more potent) to ESTRONE
- *The liver manufactures estrogen and creates bile salts that act as precursors to estrogen
- *ESTRONE is found naturally in *Salix*, *Pinus*, *Dactylifera* and *Punica*.
- *The over-use of alcohol, fat, or sugar can impair the liver's function and its ability to metabolize hormones and aid in their deactivation and clearance from the body.

ENVIRONMENTAL CONSIDERATIONS: LIVING IN A SEA OF ESTROGEN

Common Xenoestrogens; Factor in increased incidence of breast cancer?:

- *Pesticides, herbicides
- *Electromagnetic radiation
- *Alcohol
- *PCBs from Plastics

DIETARY INFLUENCE ON ESTROGEN

- *Lack of B vitamins adversely affects estrogen metabolism
- *Estrogen metabolites travel in the bile to the intestines and are broken down by microflora
- *Diet high in SOLUBLE FIBER is protective--fibers can bind with estrogen metabolites
- *Diet high in FAT can increase estrogen stimulation of estrogen-sensitive tissue
- *Obesity can be a factor in hormone imbalances, because fat cells are known to be repositories of

both endogenous and exogenous estrogen.

- *Phytoestrogens are present in whole grains, seeds, and beans

PHARMACEUTICAL SOURCES of HRT

- *Premarin is the most frequently prescribed estrogen replacement drug. It is not natural to the human body but is a combination of substances having estrogenic activity, with most of the compounds being foreign to the human female and not made by a human ovary.
- *The 3 main estrogens are estradiol, estrone, and estrinol.
- *Products that contain them include Estrace, Ogen, Estraderm patch, or Estradiol Pellets.
- *Benefit of patches and creams over oral application is the avoidance of first pass metabolism in the liver and thus partial or complete deactivation
- *Safety concerns and long-term side effects are well documented by hundreds of clinical studies and trials by pharmaceutical companies. Most recent studies have shown about a 10%/year increase of risk of breast cancer with estrogen supplementation.
- * Commonly reported side effects: nausea, breast tenderness, and retention of sodium and water which may irritate cardiac and kidney function. More extreme, though less common, ones include impairment of ovaries, formation of cysts, related emotional changes and depression, weight gain,

cancer, and various sexual disorders (Bends, 1972)

- *Years of continuous treatment may permanently damage the hypothalamus and pituitary glands, desensitizing the receptors crucial for hormone regulation (Probst, 1954).
- *Many synthetic estrogens are more potent and have a greater binding affinity for estrogen and progesterone receptors.
- *In addition, some of the drugs may target tissues and organs that are not normally acted upon by the natural hormones. The liver, the organ responsible for breaking down and recycling the body's hormones, may have difficulty recognizing and processing synthetic hormones. Other possible side effects of long term hormone replacement therapy include liver disease and cancer. Unopposed estrogen replacement is a known risk factor for endometrial cancer.

So, What are the Alternatives?

LIFESTYLE ISSUES

- Yoga, breathing, abdominal massage
- Diet low in fat and sugar
- Organic foods

****MANY SYMPTOMS THAT ARISE DURING MENSTRUAL CYCLE OR MENOPAUSE ACTUALLY RELATE TO CONSTITUTIONAL ISSUES: DEFICIENCY, LIVER EXCESS, ETC**

- **Deficiency/Excess/Stagnation:**
Determine basic type

- **Tonification: rules of tonics:**
(Don't use during acute phase, contra for digestive stagnation)

NATURAL HORMONE REGULATION: HERBS

VITEX

BLACK COHOSH

*Note: Dang Gui is not estrogenic

Summary of Herbal Treatment for Conditions Related to Hormone Imbalance

Herbs with clinical, scientific, and historical use for hormone-regulation.

***SEXUAL HORMONE-REGULATING HERBS**

Useful for assisting the body to maintain proper hormone levels and function.

Cimicifuga:

- *Contains isoflavones, tetracyclic triperpenes (weak estrogen-regulating properties); hypotensive, vasodilator, spasmolytic (also used for arthritis)
- *110 menopausal women, treated with ethanolic extract, 8 ml/day or placebo; after 8 weeks, LH, but not FSH levels were significantly reduced, thus showing a significant estrogenic effect.
- *Animal studies: LH-suppressive effects [and competes with 17-beta estradiol for estrogen receptor binding sites]
- *Cimicifuga, caused by 3 different synergistically acting compounds (tetracyclic triterpenes)

VITEX:

Table: The Benefits of the Use Of Vitex In Comparison to HRT

- * Vitex acts to increase the supply of progesterone at the problem source (pituitary gland), naturally increasing the release of LH from the anterior pituitary.
- * The action of Vitex is indirect because the herb is not an actual hormone. Therefore, effects of Vitex therapy are mild and can occur over an extended period.
- * Vitex therapy has few side effects, with as low as 1-2% of cases reporting problems. Alternately, synthetic hormone therapy may produce effects with serious complications.
- * Vitex is taken orally, while some synthetic hormones require rectal/vaginal suppositories, topical administration [patches can cause skin irritation and are often inconvenient], or intravenous injection for delivery.
- * Vitex aids in the production of breast milk. In contrast, progesterone and estrogen therapy must be discontinued during breast-feeding (AMA, 199?).
- * Vitex therapy for mild disorders can often be terminated several months after symptoms disappear. On the contrary, synthetic hormones sometimes require long-term treatment.
- * Vitex carries the experiences and wisdom of many generations and cultures. Additionally, vitex is supported by modern clinical trials. On the other hand,

synthetic hormones are void of any history beyond sixty years of clinical application.

ACTION TYPES FOR HERBAL THERPAY

Tonics:

***Hormonal tonic herbs (adaptogens): strengthens the body's ability to produce hormones, both sexual, adrenal, and neurotransmitters [Kidney tonics in TCM: or KI yin tonics]**

For stress-related issues; fatigue, anxiety, depression.

Eleuthero

Rehmannia

Panax quinquefolius

Panax ginseng

***Herbs rich in estrone (when estrogen is deficient)**

These herbs are known to contain estrone, but their use is not clinically-proven.

Date seeds

Pomaganate seeds

Willow buds (female catkins)

*ESTRONE is found naturally in

Salix, Pinus, Dactylifera and *Punica*.

***Blood tonic herbs**

Add when blood deficiency or anemia is possible (symptoms: pale face, tongue and fatigue).

Dang gui

Nettles

yellow dock

REGULATING HERBS

***Liver-regulating herbs**

Useful additions to hormone-regulating formulas, especially when accompanied with digestive imbalances or skin-related disorders (such as acne). **Regulates**

emotions, blood

Fringe-tree bark

Bupleurum [Xiao Yao Wan]

Taraxacum

Arctium

Hormone-Regulating Herbs

Vitex, black cohosh

***Calmatives; calming herbs**

[Heart yin tonics in Chinese Medicine]

Valerian, California poppy, Linden, Catnip, Chamomile, Reishi

***Antispasmodics**

To relax menstrual spasms:

Valerian, Cramp Bark, California

Poppy, Wild Yam

***Analgesics**

To relieve pain: *Corydalis, Roman

Chamomile, Jamaican Dogwood.

Small dose of 1:10 tincture of

belladonna or *Gelsemium*

(CAUTION!).

***Mood-Regulating Herbs**

For balancing neurotransmitter

function: *Hypericum*, *Ginkgo*,

Theobroma, *Spirulina* (tryptophan)

Add: Liver-regulating herbs to

stabilize mood.

Table 2 Overview of Commonly-Recommended Hormonal Herbs

<u>Herb</u>	<u>Function</u>
No published scientific proof of hormonal activity, and history of use does not suggest this effect	
Wild Yam	helps reduce cramps (antispasmodic) (biliary colic, spasmodic asthma, hiccup; dysmenorrhea to relieve cramps; although advertised by some manufacturers for its progesterone-like properties, this effect has not been proven; “natural progesterone” creams can contain up to 0.5% synthetic progesterone, which need not be mentioned on the label
Dang Gui	nourishes the blood, tonifies female organs (is not hormonal)
Cramp Bark	helps relieve uterine and intestinal cramps
Sarsaparilla	Considered a blood purifier by western herbalists; studies show that its use can increase excretion of nitrogenous waste products from the urine. Contains diosgenin, which has no proven hormonal effects in humans
No published scientific proof of hormonal activity, but history of use suggests this effect	
Blue Cohosh rz.	a nourishing, mildly stimulant uterine tonic; relieves pain
Dandelion rt.	promotes milk flow, clears the liver
Partridge Berry hb.	traditionally used to stimulate uterine contractions and help induce labor
False Unicorn rt.	contains phytosterols and is used as a uterine and menstrual-regulating herb
Beth rt.	contains phytosterols and is used as a uterine-regulating and parturition herb
Red Raspberry lf.	taken during pregnancy to gently increase tone of uterus and facilitate birthing
Fennel sd.	traditionally used to stimulate mother’s milk (galactagogue), some evidence of estrogenic effect

Published Scientific proof of hormonal activity in humans, and history of use suggests this effect

- Saw Palmetto fr. nourishes the female organs, relieves inflammation
- Black Cohosh rz. warms and stimulates the uterus, relieves pain; relieves hot flashes, regulates estrogen
- Vitex fr. regulates synthesis of sex hormones; helps relieve hormone-related symptoms
- Ginseng rt. support red Chinese and Korean ginseng are used traditionally to sexual hormone production in men and women over 40 or 50; hormone-like effect noted in animal studies, questionable in humans.
- Hibiscus fl. traditional use as a birth-control herb suggests hormone-like activity; estrogenic effect in animal studies

Hormonal activity in animals, history of use does not suggest hormonal effect

- Hops estrogenic effect in animals; possible hormonal effects noted in humans.

PROGRAMS

PMS

Liver regulators, Hormone regulators, Antispasmodics, Pain-relieving herbs, Mood Regulators

Menopause

Blood tonics, Liver regulators, Hormone tonics

Anemia

Blood tonics, digestive bitters and digestive tonics to enhance assimilation